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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,259	09/11/2003	Mototsugu Ono	1560-0398P	3537

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EXAMINER	
CONLEY, SEAN EVERETT	
ART UNIT	**PAPER NUMBER**
1744	

NOTIFICATION DATE	DELIVERY MODE
08/15/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/659,259	ONO, MOTOTSUGU	
	Examiner	Art Unit	
	Sean E. Conley	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *9/11/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed May 25, 2007 has been received and considered for examination. Claims 1-5 remain pending.

Claim Objections

2. Claim 1 is objected to because of the following informalities: Claim 1 recites: "wherein the spray gun, the end nozzle and the gas hose *are set to have* dimensions that permit...". It appears that the Applicant has intended for the phrase "are set to have" to mean that the "spray gun, the end nozzle and the gas hose *have* dimensions that permit...". The phrase "are set to have" can be interpreted as a future tense and is therefore confusing when determining what is included in the claim language. For examination purposes claim 1 has been interpreted as though the spray gun, the end nozzle and the gas hose *have* the dimensions to meet the intended use limitation. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1 and 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher (U.S. Patent No. 6,003,787) in view of Ritchie (U.S. Patent No. 2,750,071) and Jones (U.S. Patent No. 1,644,338).

Regarding claim 1, Fisher discloses an apparatus for spraying an insecticide comprising a spray gun (10) having an end nozzle (36); a chemical container (37) containing the chemical, the container being attached to the spray gun (10); a compressed gas source filled with a compressed gas; and a gas hose (hose (12)) directly connected to the spray gun (10) and the compressed gas source (see figure 1; col. 3, lines 3-66; col. 4, lines 1-13). Fisher further discloses that the compressed gas source can be air or other compressed gas such as gas generated from liquid carbon dioxide bottles (see col. 3, line 60 to col. 4, line 8). Liquid carbon dioxide is carbon dioxide gas that has been compressed under pressure in a tank or bottle. Therefore, the liquid carbon dioxide changes state to a carbon dioxide gas when dispersed from the bottles so that it may be used as a carrier. However, Fisher is silent with regards to specific details of the type of gas bottle and the use of a pressure reducing or regulating valve attached to the bottle for generating the carbon dioxide gas from the liquid carbon dioxide contained therein.

Ritchie discloses a conventional apparatus for storing and handling carbon dioxide, wherein the liquid carbon dioxide is converted to carbon dioxide gas for use with equipment requiring a gas supply under pressure. The apparatus comprises a tank (2) for containing compressed carbon dioxide in a liquid form. Attached near an outlet of the tank (2) is a pressure regulating (reducing) valve (10) which is directly connected

to the discharge hose (15), wherein the valve (10) is used for regulating the pressure from the tank by manipulating handle (11) connected with the valve (10) (see figure 1; see col. 1, lines 15-48; see col. 2, lines 4-23; see col. 3, lines 3-7). Ritchie further discloses that the use of tank (2) and pressure regulating valve (10) eliminates to a great extent the likelihood of danger to workmen since the pressure of the gas discharged from the tank can be accurately regulated (see col. 1, lines 35-41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Fisher and replace the liquid carbon dioxide bottles with the liquid carbon dioxide tank and pressure reducing valve apparatus of Ritchie in order provide the user with accurate control of the gas pressure released from the tank which eliminates the danger to the user operating the equipment.

Furthermore, Fisher is also silent with regards to a spray gun, end nozzle and gas hose which are set to have dimensions that permit a feed rate of the gas that does not cause the carbon dioxide gas to freeze due to decompressing in the pressure reducing valve during continuous spray for at least 15 minutes.

Jones discloses a carbon dioxide dispensing system where the dimensions of the discharge hose (4) and nozzle (discharge orifice (7)) have been optimized to prevent freezing of the carbon dioxide gas discharged from a tank (1) through the hose (4) (see figures 1-2; see columns 1 and 2; see col. 4, lines 88-114). Therefore, the prior art has recognized that the dimensions of the apparatus for discharging carbon dioxide gas are result effective variables. Thus, it would have been obvious to one of ordinary skill in the art to optimize the dimensions of the spray gun, end nozzle, and gas hose of Fisher

in order to permit a feed rate of the gas that does not cause the carbon dioxide gas to freeze due to decompressing in the pressure reducing valve during continuous spray for at least 15 minutes. The courts have held that the optimization of a result effective is ordinarily within the skill of the art (see MPEP 2144.05).

Regarding claims 3 and 4, Fisher discloses that the chemical container (37) is detachably attached to the spray gun (10) (see figure 1a; col. 3, lines 30-46).

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher in view of Ritchie and Jones as applied to claim 1 above, and further in view of Kirch (U.S. Patent No. 3,977,602).

Fisher in view of Ritchie and Jones disclose the claimed invention except for an apparatus wherein the gas cylinder, pressure reducing valve and gas hose are mounted on a common truck shard by the spray gun and chemical container.

Kirch disclose a mobile spray apparatus (2) which includes a paint tank (4), a pressurized carbon dioxide cylinder tank (6), a gas hose (10), a spray gun (8), and a pressure reducing valve (pressure regulator (14)) all mounted to a supporting cart (30) in order to facilitate portability of the spray apparatus for an operator that is required o continually change locations (see figure 1; see col. 2, line 5 to col. 3, line 25; see col. 4, lines 3-40).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Fisher and mount the entire spray apparatus on a common truck (cart (30)) as taught by Kirch in order to enhance

portability of the spray apparatus so that an operator is able to continually change locations during a spraying process.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher in view of Ritchie and Jones as applied to claim 1 above, and further in view of Stonecipher (U.S. Patent No. 2,657,166).

Fisher is silent with regards to specific types of insecticides used in and sprayed the apparatus, therefore, it would have been necessary and thus obvious to look to the prior art for conventional insecticides. Stonecipher provides this conventional teaching showing that it is known in the art to use chlorinated fenchyl alcohol as an insecticide to reduce or kill houseflies (see col. 4, lines 33-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the insecticide from chlorinated fenchyl alcohol motivated by the expectation of successfully practicing the invention of Fisher.

Response to Arguments

7. Applicant's arguments, see pages 4-6, filed May 25, 2007, with respect to the rejection(s) of claim(s) 1-4 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made for claims 1-4. Claims 1 and 3-4 are rejected over Fisher in view of Ritchie and Jones (see rejection in section 4 above).

Claim 2 is rejected over Fisher in view of Ritchie and Jones and further in view of Kirch (see rejection in section 5 above).

Fisher has been relied upon in this office action to teach the same limitations as recited in the previous office action mailed on February 28, 2007. The newly cited references of Ritchie, Jones, and Kirch have been relied upon to teach the remaining features of claims 1-4.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean E. Conley whose telephone number is 571-272-8414. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sean E. Conley
Patent Examiner

August 8, 2007